

## ***INNOVATIVE GLOBAL EDUCATION INITIATIVE***

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### **ABSTRACT**

This proposal aims to enhance quality of senior capstone projects at Texas A&M University (TAMU) and participating institutions in South America and Asia. The undergraduate engineering students working on these projects would (i) gain global experiences and appreciation of cross-cultural communication, (ii) be better prepared for global industry, and (iii) be inspired for graduate study.

Senior TAMU students either work alone or form a team among fellow classmates to complete a capstone project and demonstrate learning achievement before graduation. Although students can achieve most learning outcomes, an in-house project usually does not provide global component since it constrains students to within own disciplinary or departmental boundary, and does not prepare students to join the increasing industry sectors with global interests. This program allows a team of 2-5 students from participating institutes to work together on a project that has clearly defined objectives, schedules, and scopes. A project can be research-type to provide undergraduate students with invaluable research experiences, or can be industry-type to expose students to practical and real world problems. The global approach to capstone projects not only allows undergraduate students to achieve technical objectives but also satisfies all required learning outcomes and equips students with sufficient hard skills and soft skills before entering an international workforce. If a capstone project is part of a larger research program, then participation in such project would provide invaluable undergraduate research experiences to students from institutions with limited research capability. This also inspires students to consider graduate study, and opens a new channel for faculty to cross-recruit qualified students for graduate programs.

This international capstone project approach, when fully expanding to all departments or colleges, would not only significantly increase the number of students with international experiences, but also enhance diversity of departments/colleges when working with or hosting students from underrepresented groups. The rewarding trips to participating institutes motivate more students to compete for and then dedicate full effort to complete an international project professionally while earning an international certificate before graduation. Industries with global interest would likely to contribute to this program since they would benefit when employing graduates with international experiences.